Selection of 20 Research Catchments

**Ergolz**
- Area: 261 km²
- Mean elevation: 590 m
- Land use: Alluvium, Matt, Linzmoos
- Hydrological data:
  - 1 Hydrological station: bi-weekly, started in July 2010
  - Precipitation: NADUA

**Emme**
- Area: 177 km²
- Mean elevation: 1185 m
- Land use: Tertiary Molasse, Alluvium, Lyspisch
- Hydrological data:
  - 1 Hydrological station: bi-weekly, started in June 2010
  - 1 Observation well: annually, started in October 2010

**Alp**
- Area: 46.6 km²
- Mean elevation: 1155 m
- Land use: Tertiary Molasse, Pliensbach, Limestone
- Hydrological data:
  - 4 Hydrological stations: bi-weekly, started in June 2010
  - 1 Observation well: bi-monthly, started in February 2011

**Murg**
- Area: 78 km²
- Mean elevation: 650 m
- Land use: Tertiary Molasse, Pliensbach
- Hydrological data:
  - 1 Hydrological station: bi-weekly, started in July 2010
  - 2 Observation wells: monthly, started in February 2011

**OBJECTIVES**

**Problem:** During times of critical low flow, streamflow is fed by groundwater discharge to the stream.

**Main objectives of workpackage 3**
- To improve the understanding and modeling of groundwater discharge and hence baseflow
- To characterize the vulnerability of a variety of different catchments to drought

**Stable isotope signal in precipitation**

**Stable isotope signal in streamflow**

**Surface and groundwater modeling of water flow and transport**

**Groundwater model**

**Conceptional modeling of streamflow and water transit time**

**Storage discharge**

**Conceptionally lumped simulation (transfer function) of isotope signals**

**Spatial-temporal explicit simulation of isotope signals**